

SEQUENCE LISTING

<110> PEETERS, PIETER J.
 GOHLMANN, HINRICH W. H.
 SWAGEMAKERS, SIGRID M. A.
 KASS, STEFAN U.
 STECKLER, THOMAS H. W.
 FIERENS, FREDERIK L. P.

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<210> 12

<211> 364

<212> PRT

<213> Mus musculus

<400> 12

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Thr Ala Met Asn Glu Gln Gln Cys Phe Tyr Asn Glu Ser Ile Ala Phe
          20              25              30

Phe Tyr Asn Arg Ser Gly Lys Tyr Leu Ala Thr Glu Trp Asn Thr Val
          35              40              45

Ser Lys Leu Val Met Gly Leu Gly Ile Thr Val Cys Val Phe Ile Met
          50              55              60

Leu Ala Asn Leu Leu Val Met Val Ala Ile Tyr Val Asn Arg Arg Phe
          65              70              75              80

His Phe Pro Ile Tyr Tyr Leu Met Ala Asn Leu Ala Ala Ala Asp Phe
          85              90              95

Phe Ala Gly Leu Ala Tyr Phe Tyr Leu Met Phe Asn Thr Gly Pro Asn
          100             105             110

Thr Arg Arg Leu Thr Val Asn Thr Trp Leu Leu Arg Gln Gly Leu Ile
          115             120             125

Asp Thr Ser Leu Thr Ala Ser Val Ala Asn Leu Leu Ala Ile Ala Ile
          130             135             140

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Glu Arg His Ile Thr Val Phe Arg Met Gln Leu His Thr Arg Met Ser
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 Val Met Gly Ala Met Pro Thr Val Gly Trp Asn Cys Ile Cys Asp Ile
 180 185 190
 Asp His Cys Ser Asn Met Ala Pro Leu Tyr Ser Asp Ser Tyr Leu Val
 195 200 205
 Phe Trp Ala Ile Phe Asn Leu Val Thr Phe Val Val Met Val Val Leu
 210 215 220
 Tyr Ala His Ile Phe Gly Tyr Val Arg Gln Arg Thr Met Arg Met Ser
 225 230 235 240
 Arg His Ser Ser Gly Pro Arg Arg Asn Arg Asp Thr Met Met Ser Leu
 245 250 255
 Leu Lys Thr Val Val Ile Val Leu Gly Ala Phe Ile Val Cys Trp Thr
 260 265 270
 Pro Gly Leu Val Leu Leu Leu Leu Asp Val Cys Cys Pro Gln Cys Asp
 275 280 285
 Val Leu Ala Tyr Glu Lys Phe Phe Leu Leu Leu Ala Glu Phe Asn Ser
 290 295 300
 Ala Met Asn Pro Ile Ile Tyr Ser Tyr Arg Asp Lys Glu Met Ser Ala
 305 310 315 320
 Thr Phe Arg Gln Ile Leu Cys Cys Gln Arg Asn Glu Asn Pro Asn Gly
 325 330 335
 Pro Thr Glu Gly Ser Asp Arg Ser Ala Ser Ser Leu Asn His Thr Ile
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 Leu Ala Gly Val His Ser Asn Asp His Ser Val Val
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<210> 13

<211> 1038

<212> DNA

<213> Mus musculus

<400> 13

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 cagatgacct tcaaggactt ggtgtcctgc acctaccagc tggctagagg catggagtac 420
 ttggcttccc aaaaatgtat ccatcgagat ttggctgcca gaaacgtgtt ggtaacagaa 480
 aacaatgtga tgaagatagc agactttggc ctggccaggg atatcaacaa catagactac 540

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gaacagtatt ctctagtta ccccgacaca agtagctctt gttcttcagg ggacgattct 960
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<210> 14

<211> 345

<212> PRT

<213> Mus musculus

<400> 14

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Pro Arg Asp Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe
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Gly Gln Val Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro
      20              25              30

Lys Glu Ala Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr
      35              40              45

Glu Lys Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met
      50              55              60

Ile Gly Lys His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln
      65              70              75              80

Asp Gly Pro Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu
      85              90              95

Arg Glu Tyr Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr
      100             105             110

Asp Ile Asn Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val
      115             120             125

Ser Cys Thr Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln
      130             135             140

Lys Cys Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu
      145             150             155             160

Asn Asn Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn
      165             170             175

Asn Ile Asp Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys
      180             185             190

Trp Met Ala Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser
      195             200             205

Asp Val Trp Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly
      210             215             220

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Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu
 225 230 235 240
 Lys Glu Gly His Arg Met Asp Lys Pro Thr Asn Cys Thr Asn Glu Leu
 245 250 255
 Tyr Met Met Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro
 260 265 270
 Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr
 275 280 285
 Thr Asn Glu Glu Tyr Leu Asp Leu Thr Gln Pro Leu Glu Gln Tyr Ser
 290 295 300
 Pro Ser Tyr Pro Asp Thr Ser Ser Ser Cys Ser Ser Gly Asp Asp Ser
 305 310 315 320
 Val Phe Ser Pro Asp Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr
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<210> 15

<211> 2620

<212> DNA

<213> Mus musculus

<400> 15

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 tgcgcagtgg ccgtttgact ggagaccgga atgtcctgga gtattacaaa aacgatcatg 180
 ccaagaagcc tattcggatt attgatttaa atttatgtca gcaagttgat gctgggttga 240
 cattcaacaa aaaggagttt gaaaacagct atatctttga tatcaacacc atcgaccgga 300
 ttttctactt ggtggcagat agtgaggaag acatgaacaa gtgggtccgt tgtatctgtg 360
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 aagcaccgct cgattcacct ttcgctataa gtacagcacc agcctccagt cagatggaag 480
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 ctgctcatat gggcttcagg tccagcccaa agaccctcc caggaggcca gttcctgttg 1560

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<210> 16
 <211> 695
 <212> PRT
 <213> Mus musculus

<400> 16
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 35 40 45
 Lys Asn Asp His Ala Lys Lys Pro Ile Arg Ile Ile Asp Leu Asn Leu
 50 55 60
 Cys Gln Gln Val Asp Ala Gly Leu Thr Phe Asn Lys Lys Glu Phe Glu
 65 70 75 80
 Asn Ser Tyr Ile Phe Asp Ile Asn Thr Ile Asp Arg Ile Phe Tyr Leu
 85 90 95
 Val Ala Asp Ser Glu Glu Asp Met Asn Lys Trp Val Arg Cys Ile Cys
 100 105 110
 Asp Ile Cys Gly Phe Asn Pro Thr Glu Glu Asp Pro Val Lys Pro Leu
 115 120 125
 Thr Gly Ser Ser Gln Ala Pro Val Asp Ser Pro Phe Ala Ile Ser Thr
 130 135 140
 Ala Pro Ala Ser Ser Gln Met Glu Ala Ser Ser Val Ala Leu Pro Pro
 145 150 155 160
 Pro Tyr Gln Val Ile Ser Leu Pro Pro His Pro Asp Thr Leu Gly Leu
 165 170 175

Gln Asp Asp Pro Gln Asp Tyr Leu Leu Leu Ile Asn Cys Gln Ser Lys
 180 185 190
 Lys Pro Glu Pro Asn Arg Thr Leu Phe Asp Ser Ala Lys Pro Thr Phe
 195 200 205
 Ser Glu Thr Asp Cys Asn Asp Asn Val Pro Ser His Gln Thr Pro Ala
 210 215 220
 Ser Ser Gln Ser Lys His Gly Met Asn Gly Phe Leu Gln Gln Gln Met
 225 230 235 240
 Met Tyr Asp Cys Pro Pro Ser Arg Leu Thr Ser Val Ser Gly Glu Ser
 245 250 255
 Ser Leu Tyr Asn Leu Pro Arg Ser Tyr Ser His Asp Val Leu Pro Lys
 260 265 270
 Glu Ser Pro Ser Ser Thr Glu Ala Asp Gly Glu Leu Tyr Thr Phe Asn
 275 280 285
 Thr Pro Ser Gly Thr Ala Gly Val Glu Thr Gln Met Arg His Val Ser
 290 295 300
 Ile Ser Tyr Asp Ile Pro Pro Thr Pro Gly Asn Thr Tyr Gln Ile Pro
 305 310 315 320
 Arg Thr Phe Pro Glu Ser Thr Leu Gly Gln Ser Ser Lys Leu Asp Thr
 325 330 335
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 340 345 350
 Asp Arg Ser Pro Val Glu Thr Cys Gly Val Pro Arg Thr Ala Ser Asp
 355 360 365
 Thr Asp Ser Ser Tyr Cys Ile Pro Pro Pro Val Gly Met Thr Pro Ser
 370 375 380
 Arg Ser Asn Thr Ile Ser Thr Val Asp Leu Asn Lys Leu Arg Lys Asp
 385 390 395 400
 Ala Ser Ser Gln Asp Cys Tyr Asp Ile Pro Arg Thr Phe Pro Ser Asp
 405 410 415
 Arg Ser Ser Ser Leu Glu Gly Phe His Ser Gln Tyr Lys Ile Lys Ser
 420 425 430
 Val Leu Thr Ala Gly Gly Val Ser Gly Glu Glu Leu Asp Glu Asn Tyr
 435 440 445
 Val Pro Met Asn Pro Asn Ser Pro Pro Arg Gln His Ser Gly Ser Phe
 450 455 460
 Thr Glu Pro Ile Gln Glu Pro Asn Tyr Val Pro Met Thr Pro Gly Thr
 465 470 475 480

TABLE 1. *Continued*

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<210> 18

<211> 193

<212> PRT

<213> Mus musculus

<400> 18

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Met Gly Lys Gln Asn Ser Lys Leu Arg Pro Glu Val Leu Gln Asp Leu
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          20              25              30

Gly Phe Leu Lys Asp Cys Pro Thr Gly His Leu Thr Val Asp Glu Phe
  35              40              45

Lys Lys Ile Tyr Ala Asn Phe Phe Pro Tyr Gly Asp Ala Ser Lys Phe
  50              55              60

Ala Glu His Val Phe Arg Thr Phe Asp Thr Asn Ser Asp Gly Thr Ile
  65              70              75              80

Asp Phe Arg Glu Phe Ile Ile Ala Leu Ser Val Thr Ser Arg Gly Lys
          85              90              95

Leu Glu Gln Lys Leu Lys Trp Ala Phe Ser Met Tyr Asp Leu Asp Gly
  100              105              110

Asn Gly Tyr Ile Ser Arg Ser Glu Met Leu Glu Ile Val Gln Ala Ile
  115              120              125

Tyr Lys Met Val Ser Ser Val Met Lys Met Pro Glu Asp Glu Ser Thr
  130              135              140

Pro Glu Lys Arg Thr Asp Lys Ile Phe Arg Gln Met Asp Thr Asn Asn
  145              150              155              160

Asp Gly Lys Leu Ser Leu Glu Glu Phe Ile Lys Gly Ala Lys Ser Asp
          165              170              175

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Pro Ser Ile Val Arg Leu Leu Gln Cys Asp Pro Ser Ser Ala Ser Gln
 180 185 190

Phe

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 <211> 1350
 <212> DNA
 <213> Mus musculus

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 tgcggagcaa tttattgtca aggcgggaaa gctcatgggc ggactggaca tgcttattct 480
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 <212> PRT
 <213> Mus musculus

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 Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile Gly Arg
 35 40 45
 Glu Met Ala Tyr His Leu Ser Lys Met Gly Ala His Val Val Leu Thr
 50 55 60

Ala Arg Ser Glu Glu Gly Leu Gln Lys Val Val Ser Arg Cys Leu Glu
 65 70 75 80
 Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu Asp Met
 85 90 95
 Thr Phe Ala Glu Gln Phe Ile Val Lys Ala Gly Lys Leu Met Gly Gly
 100 105 110
 Leu Asp Met Leu Ile Leu Asn His Ile Thr Gln Thr Ser Leu Ser Leu
 115 120 125
 Phe His Asp Asp Ile His Ser Val Arg Arg Val Met Glu Val Asn Phe
 130 135 140
 Leu Ser Tyr Val Val Met Ser Thr Ala Ala Leu Pro Met Leu Lys Gln
 145 150 155 160
 Ser Asn Gly Ser Ile Ala Val Ile Ser Ser Leu Ala Gly Lys Met Thr
 165 170 175
 Gln Pro Met Ile Ala Pro Tyr Ser Ala Ser Lys Phe Ala Leu Asp Gly
 180 185 190
 Phe Phe Ser Thr Ile Arg Thr Glu Leu Tyr Ile Thr Lys Val Asn Val
 195 200 205
 Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr Ala Met
 210 215 220
 Lys Glu Ile Ser Gly Ile Ile Asp Ala Leu Ala Ser Pro Lys Glu Glu
 225 230 235 240
 Cys Ala Leu Glu Ile Ile Lys Gly Thr Ala Leu Arg Lys Ser Glu Val
 245 250 255
 Tyr Tyr Asp Lys Leu Pro Leu Thr Pro Ile Leu Leu Gly Asn Pro Gly
 260 265 270
 Arg Lys Ile Met Glu Phe Phe Ser Leu Arg Tyr Tyr Asn Lys Asp Met
 275 280 285
 Phe Val Ser Asn
 290

<210> 21

<211> 1554

<212> DNA

<213> Mus musculus

<400> 21

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 aggtgctgtt caccgcgctc tattcgctca tcttcgctt tggcacagcc ggcaatgcgc 180
 tgtccgtgca cgtgggtgctg aaggcgcgga cgggtcgccc cgggcgcctg cgctaccacg 240
 tgctcagcct ggcactgtca gccctgctgc tactgctgat cagcgtgccc atggagctct 300
 acaacttcgt gtgggtccac taccctggg tcttcggcga tctcggtgt cgtggctatt 360

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acttcgtgcg cgagctgtgc gcctacgcca cgggtgctgag cgtggccagc ctgagcgcag 420
agcgctgcct ggccgtgtgc cagccgctgc gcgcccgcgc cctgctcacc ccgcgccgca 480
cctgccgcct gctgtcactg gtctgggtcg cctctctggg ccttgccctg cccatggcgg 540
ttatcatggg acagaagcac gaaatggaga gggccgacgg ggagcctgag cctgcctcgc 600
gtgtgtgcac ggtgctagta agtcgcgcca gctccaggtc tacattccag gtgaaacgtg 660
ctggtctcct tcgttctccc ctttgggaaac tcaactgctat tctgaatggg atcaactgtca 720
accacctggg ggccctctac tcccaggtac catcagcttc tgcccaagtc aactccatcc 780
ccagccgcct ggagctcctg agtgaggaag gcctcctggg cttcatcaca tggagaaaga 840
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gcctccagca cagcgcccag gttctcagag ccacgtggc tgtgtatgtc atctgctggc 960
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cggcagtgac cccagtcctc tacaatgccg tgtcttctc cttcagaaag ctctttctgg 1140
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tgcatactgc aggcaagcca cgtaacacct cctgccctca gcttcccacc tgtgcaacca 1440
aggtgtagaa taggacaaat tgcctagtga tgaagtgcc cagtgccagc ctggtacaga 1500
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<210> 22

<211> 417

<212> PRT

<213> Mus musculus

<400> 22

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Met Glu Thr Ser Ser Leu Trp Pro Pro Arg Pro Ser Pro Ser Ala Gly
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Leu Ser Leu Glu Ala Arg Leu Gly Val Asp Thr Arg Leu Trp Ala Lys
      20                      25                      30

Val Leu Phe Thr Ala Leu Tyr Ser Leu Ile Phe Ala Leu Gly Thr Ala
      35                      40                      45

Gly Asn Ala Leu Ser Val His Val Val Leu Lys Ala Arg Thr Gly Arg
      50                      55                      60

Pro Gly Arg Leu Arg Tyr His Val Leu Ser Leu Ala Leu Ser Ala Leu
      65                      70                      75                      80

Leu Leu Leu Leu Ile Ser Val Pro Met Glu Leu Tyr Asn Phe Val Trp
      85                      90                      95

Ser His Tyr Pro Trp Val Phe Gly Asp Leu Gly Cys Arg Gly Tyr Tyr
      100                      105                      110

Phe Val Arg Glu Leu Cys Ala Tyr Ala Thr Val Leu Ser Val Ala Ser
      115                      120                      125

Leu Ser Ala Glu Arg Cys Leu Ala Val Cys Gln Pro Leu Arg Ala Arg
      130                      135                      140

Arg Leu Leu Thr Pro Arg Arg Thr Cys Arg Leu Leu Ser Leu Val Trp
      145                      150                      155                      160

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Val Ala Ser Leu Gly Leu Ala Leu Pro Met Ala Val Ile Met Gly Gln
 165 170 175
 Lys His Glu Met Glu Arg Ala Asp Gly Glu Pro Glu Pro Ala Ser Arg
 180 185 190
 Val Cys Thr Val Leu Val Ser Arg Ala Ser Ser Arg Ser Thr Phe Gln
 195 200 205
 Val Lys Arg Ala Gly Leu Leu Arg Ser Pro Leu Trp Glu Leu Thr Ala
 210 215 220
 Ile Leu Asn Gly Ile Thr Val Asn His Leu Val Ala Leu Tyr Ser Gln
 225 230 235 240
 Val Pro Ser Ala Ser Ala Gln Val Asn Ser Ile Pro Ser Arg Leu Glu
 245 250 255
 Leu Leu Ser Glu Glu Gly Leu Leu Gly Phe Ile Thr Trp Arg Lys Thr
 260 265 270
 Leu Ser Leu Gly Val Gln Ala Ser Leu Val Arg His Lys Asp Ala Ser
 275 280 285
 Gln Ile Arg Ser Leu Gln His Ser Ala Gln Val Leu Arg Ala Ile Val
 290 295 300
 Ala Val Tyr Val Ile Cys Trp Leu Pro Tyr His Ala Arg Arg Leu Met
 305 310 315 320
 Tyr Cys Tyr Ile Pro Asp Asp Gly Trp Thr Asp Glu Leu Tyr Asp Phe
 325 330 335
 Tyr His Tyr Phe Tyr Met Val Thr Asn Thr Leu Phe Tyr Val Ser Ser
 340 345 350
 Ala Val Thr Pro Val Leu Tyr Asn Ala Val Ser Ser Ser Phe Arg Lys
 355 360 365
 Leu Phe Leu Glu Ser Leu Ser Ser Leu Cys Gly Glu Gln Arg Ser Val
 370 375 380
 Val Pro Leu Pro Gln Glu Ala Pro Glu Ser Thr Thr Ser Thr Tyr Ser
 385 390 395 400
 Phe Arg Leu Trp Gly Ser Pro Arg Asn Pro Ser Leu Gly Glu Ile Gln
 405 410 415

Val

<210> 23

<211> 761

<212> DNA

<213> Mus musculus

<400> 23

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ccgagctgtc caacgaggag cgcaacctgc tgcggtggc ctacaaaaac gtggtagggg 180
gccgcaggtc cgcctggagg gtcattctga gcattgagca gaagaccgac acctctgaca 240
agaagttgca gctgatcaag gactatcggg agaaagtggg gtcggagctg aggtccatct 300
gcaccacggg cctggaattg ttggataagt atttaatagc caatgcaact aatccagaga 360
gtaaggctct ctatctgaaa atgaagggag attatttccg gtatcttgct gaagtagctt 420
gtggcgatga tcgaaaacaa acaatagaaa attcccaagg agcctaccaa gaggcgtttg 480
atataagcaa gaaggagatg cagcctacgc atccaatccg cctggggctg gctcttaact 540
tttctgtatt ttactatgag atccttaata atccagagct tgcctgcaca ctggctaaaa 600
cggcttttga tgaggccatc gcagagcttg atacactgaa cgaagactcc tacaagaca 660
gcaccctcat catgcagttg cttagagaca acttaacatt atggacatca gacagtgcag 720
gagaagaatg tgatgcagca gagggggccg aaaactaaac c 761

```

<210> 24

<211> 245

<212> PRT

<213> Mus musculus

<400> 24

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Met Glu Lys Thr Glu Leu Ile Gln Lys Ala Lys Leu Ala Glu Gln Ala
 1              5              10              15

Glu Arg Tyr Asp Asp Met Ala Thr Cys Met Lys Ala Val Thr Glu Gln
      20              25              30

Gly Ala Glu Leu Ser Asn Glu Glu Arg Asn Leu Leu Ser Val Ala Tyr
 35              40              45

Lys Asn Val Val Gly Gly Arg Arg Ser Ala Trp Arg Val Ile Ser Ser
 50              55              60

Ile Glu Gln Lys Thr Asp Thr Ser Asp Lys Lys Leu Gln Leu Ile Lys
 65              70              75              80

Asp Tyr Arg Glu Lys Val Glu Ser Glu Leu Arg Ser Ile Cys Thr Thr
      85              90              95

Val Leu Glu Leu Leu Asp Lys Tyr Leu Ile Ala Asn Ala Thr Asn Pro
 100              105              110

Glu Ser Lys Val Phe Tyr Leu Lys Met Lys Gly Asp Tyr Phe Arg Tyr
 115              120              125

Leu Ala Glu Val Ala Cys Gly Asp Asp Arg Lys Gln Thr Ile Glu Asn
 130              135              140

Ser Gln Gly Ala Tyr Gln Glu Ala Phe Asp Ile Ser Lys Lys Glu Met
 145              150              155              160

Gln Pro Thr His Pro Ile Arg Leu Gly Leu Ala Leu Asn Phe Ser Val
      165              170              175

Phe Tyr Tyr Glu Ile Leu Asn Asn Pro Glu Leu Ala Cys Thr Leu Ala
 180              185              190

```

Lys Thr Ala Phe Asp Glu Ala Ile Ala Glu Leu Asp Thr Leu Asn Glu
 195 200 205
 Asp Ser Tyr Lys Asp Ser Thr Leu Ile Met Gln Leu Leu Arg Asp Asn
 210 215 220
 Leu Thr Leu Trp Thr Ser Asp Ser Ala Gly Glu Glu Cys Asp Ala Ala
 225 230 235 240
 Glu Gly Ala Glu Asn
 245

<210> 25
 <211> 417
 <212> DNA
 <213> Mus musculus

<400> 25
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 cttggcagtg gtaggactga gagtacaaga gttggaagcc ctggggctca gctttcacta 120
 ggcaggggtg gcacactagc aagtgcagag aggaggcctg tatatatgtc aaccccacgg 180
 agaaatatat cctcatgcag ccgttcatta tggtcagtga gcaggacagg tgtgcggttc 240
 atgggcgaga agcccagagc tgggatcccc accgcccgga taaagcggct gtcagtggca 300
 gcaggaaaga tctctggctc cagagtggag ttcattgcct tgcaggctcc gctgaaagct 360
 gccaccagg gatctgaatc atccgtgggt gtcattcgag gctctgtaaa cttctga 417

<210> 26
 <211> 715
 <212> DNA
 <213> Mus musculus

<220>
 <221> modified_base
 <222> (613)
 <223> a, c, t, g, unknown or other

<400> 26
 gccatcaatg ctttattcct tcattctctgt cctgtccaac actagtgaac acacacctct 60
 ggctcattaa ggaagtgaac tgcagatgag caactaggat agaaacatca ttcacacact 120
 ctttctcagg tgttcctcgg gtgcacactc acacgagttt gcacatacta taagcctgaa 180
 taatgatgcc cattatctgc acagggtaaa actgattcca tactgggtgca acctgggtgga 240
 agtcttcagg acacttaaca aaattatatt ctgattattc attttctaga tttggggatg 300
 aaaaatagaaa agaataataa caaagcatgc tttttgaggt ttcttgggtc agttagtaga 360
 aaaaataggtg ttttctttga gaggtttttt taattgttta tcttatttta tttttaagtg 420
 gagaactgtg aaactggaat tcctgaggtt ttttttttcc ccacttcata agtctttaag 480
 agagtggtag gctttggcag tcccgtgtgt gacaaagtct gttttcttaa actgagcctt 540
 cttataggcg tgatgcagct ctgtatgtgc ccacagagag taaaggagga cagaagctgc 600
 tttgcttgcc ttngtggggc atagcctttc cctatgctga tgtcatattt tctgcaaaac 660
 ctcggttcca gagggctcgt gcattctggt aactattttg cattaaatgt tcaac 715

<210> 27
 <211> 201
 <212> DNA
 <213> Mus musculus

<400> 27

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gtgacaggac gcctccccc caccatatt ctaagcttta tcttctagta gcctgagggc 60
tggagagagg tagtttctgc cggatttgt catctggagt cgttcctgtg gcctcctttt 120
tctctggttt ttgcattttt tcttggtccg atgaaagcat ttcctttttc taaccaataa 180
agtgatcgct ttcagcaatg g                                     201

```

<210> 28

<211> 490

<212> DNA

<213> Mus musculus

<400> 28

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agcaatgaat gtggaacatg aagttaacct cctggtggag gaaattcatc gcctggggttc 60
cagaaatgct gatggaaaat taagtgtgaa gtttggggtc ctcttccagg atgacagatg 120
tgccaatctc tttgaagcgt tggtaggaac tctgaaagct gcaaaacgaa ggaagattgt 180
tacatacgca ggggaactac ttttgcaagg tgttcatgat gatgttgaca ttgtattgct 240
gcaagattaa tgtggtttgc atggccttgg gtatctgata aactggaata actaagttaa 300
gagactagcg tgaatttctt tatgtatttt tatagaactt tgtaaacaaa ggggggcttg 360
ttgagaagtc ctgtttttat accttgaagc aaaacattac aatgtaaaat gagacaaacc 420
tattattttt cttaagaagg taatttggga aatgtaggta atgaaacatt tttgggaggt 480
gtgaaaagc                                     490

```

<210> 29

<211> 262

<212> DNA

<213> Mus musculus

<400> 29

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attggtgcat gtgtgtttgc tagctcactt gtccatgaga atattttatg atattaaaga 60
aaaccttttg aaatggctgc ttttcaaaga agataattca tggcttctca tttttcagtc 120
tcttcaaaag tgtggctggc ctgttttatg actgcagagt tgttatgttt ttttaattttg 180
aatattgcct attaaagata ggacaaactt ggagattatg atgttgcttg gcacagactg 240
tattaaaaca acactcccgt ga                                     262

```

<210> 30

<211> 367

<212> DNA

<213> Mus musculus

<400> 30

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ctggcacgga catggctgtc ttctgtctgc tgtgtgggaa acgctttcag gcacaaagcg 60
cactccagca gcacatggag gtccacgcag gcgtgcgcag ctatatttgc agtgagtgca 120
accgcacctt cccagccac acggctctca agcgccacct tcgctcacat acaggttttt 180
ttctccatgt gtcaccaagt gaagtttgtg cttctatag caaagagaat attttttaca 240
tcctactaac agtagatttt tttgtagtga acattttttg tattttttatt tataagtctc 300
ataagaaaaa tagcgatgtt cagttgtata cttgaaatct gcagttagaa gagaataaag 360
ttaactc                                     367

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<210> 31

<211> 354

<212> DNA

<213> Mus musculus

<400> 31

tttttttttt	ttttttttgca	agagtaaaaag	tctttaatttt	actgtgcacc	tcagaaaagct	60
acaagtaaaa	tgtttgtaag	aataatacaca	agaatttcag	agtataaaat	tctccatgta	120
attagtagtc	atattaatat	tagaactaca	gtagaaaaaa	atagctgtct	cctagattct	180
cccaggagcc	taactgtgtg	gctttgagaa	ggtggagtgtg	ttctgagtga	gcgggaagtc	240
aagctcactc	ctccagttct	cccagcagct	ccacgaagtc	agtgatgtac	cacttggcgt	300
tgtccttaac	ctgctgcctg	atcacattgc	ctccaaagcc	aatgaaagca	tcag	354

<210> 32

<211> 2285

<212> DNA

<213> Mus musculus

<400> 32

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tccggcggcg	gtgtccggcg	cgcggtgag	cgaccgagcg	tgccggacgga	gcggcggcct	120
gctggcgggg	ctgagcggcg	cgcgcgggcg	cggagagacg	cggagcgagg	gacgcggcg	180
cggcggacgc	ggcgacaggt	cttctactta	caaaggacaa	tgactactga	tgaggggcacc	240
agtaacaatg	gagagaaccc	agcagccacc	atgactgagc	aggggtgaaga	tatcactacg	300
aagaaaagaca	gaggagtatt	aaagattgtc	aaaagagtgg	ggactagtga	cgaggcccca	360
atgtttgggtg	acaaagttta	tgtccactac	aaagggatgt	tgtcagatgg	aaagaagttt	420
gattccagtc	atgacagaaa	gaagccattt	gcctttagcc	ttggccaagg	ccaggttattc	480
aaagcctggg	acattggggg	gtctactatg	aagaaaggcg	agatctgcca	tttattatgt	540
aaaccagaat	atgcttatgg	ctcggtggc	cacctccaaa	aaattccatc	aaatgcaact	600
ctcttttttg	agattgagct	ccttgatttc	aaaggtgagg	atttatttga	agattcaggc	660
gttatccgta	gaatcaaacg	gaaaggcgag	ggatactcaa	acccaaacga	aggagcaacg	720
gtaaaagtcc	acctggaagg	ctgctgtggg	ggaaggacat	ttgattgccg	agatgtgggtg	780
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aagatgcaga	gagaagaaca	gtgtattcta	tatcttggac	cacgctatgg	ttttggagaa	900
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gtgattcagt	acaggaagat	agtgtcctgg	ctggagatgg	aatacggcct	gtcagagaag	1140
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cgctggtgtg	aagagaccag	gccagcagct	cagtcacagc	catttcagtt	tgtcaccttt	1860
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ctgccttcca	agtcctttcg	cagactcttg	agtgtggctt	tctgtcctag	ccagcatgtc	2160
ccacagactc	tgttgttcc	ccaacgccc	tcattagtga	cagctttctc	tctgagtttc	2220
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acgat						2285

<210> 33
 <211> 456
 <212> PRT
 <213> Mus musculus

<400> 33
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 Thr Met Thr Glu Gln Gly Glu Asp Ile Thr Thr Lys Lys Asp Arg Gly
 20 25 30
 Val Leu Lys Ile Val Lys Arg Val Gly Thr Ser Asp Glu Ala Pro Met
 35 40 45
 Phe Gly Asp Lys Val Tyr Val His Tyr Lys Gly Met Leu Ser Asp Gly
 50 55 60
 Lys Lys Phe Asp Ser Ser His Asp Arg Lys Lys Pro Phe Ala Phe Ser
 65 70 75 80
 Leu Gly Gln Gly Gln Val Ile Lys Ala Trp Asp Ile Gly Val Ser Thr
 85 90 95
 Met Lys Lys Gly Glu Ile Cys His Leu Leu Cys Lys Pro Glu Tyr Ala
 100 105 110
 Tyr Gly Ser Ala Gly His Leu Gln Lys Ile Pro Ser Asn Ala Thr Leu
 115 120 125
 Phe Phe Glu Ile Glu Leu Leu Asp Phe Lys Gly Glu Asp Leu Phe Glu
 130 135 140
 Asp Ser Gly Val Ile Arg Arg Ile Lys Arg Lys Gly Glu Gly Tyr Ser
 145 150 155 160
 Asn Pro Asn Glu Gly Ala Thr Val Lys Val His Leu Glu Gly Cys Cys
 165 170 175
 Gly Gly Arg Thr Phe Asp Cys Arg Asp Val Val Phe Val Val Gly Glu
 180 185 190
 Gly Glu Asp His Asp Ile Pro Ile Gly Ile Asp Lys Ala Leu Val Lys
 195 200 205
 Met Gln Arg Glu Glu Gln Cys Ile Leu Tyr Leu Gly Pro Arg Tyr Gly
 210 215 220
 Phe Gly Glu Ala Gly Lys Pro Lys Phe Gly Ile Asp Pro Asn Ala Glu
 225 230 235 240
 Leu Met Tyr Glu Val Thr Leu Lys Ser Phe Glu Lys Ala Lys Glu Ser
 245 250 255
 Trp Glu Met Asp Thr Lys Glu Lys Leu Thr Gln Ala Ala Ile Val Lys
 260 265 270

Glu Lys Gly Thr Val Tyr Phe Lys Gly Gly Lys Tyr Thr Gln Ala Val
 275 280 285
 Ile Gln Tyr Arg Lys Ile Val Ser Trp Leu Glu Met Glu Tyr Gly Leu
 290 295 300
 Ser Glu Lys Glu Ser Lys Ala Ser Glu Ser Phe Leu Leu Ala Ala Phe
 305 310 315 320
 Leu Asn Leu Ala Met Cys Tyr Leu Lys Leu Arg Glu Tyr Asn Lys Ala
 325 330 335
 Val Glu Cys Cys Asp Lys Ala Leu Gly Leu Asp Ser Ala Asn Glu Lys
 340 345 350
 Gly Leu Tyr Arg Arg Gly Glu Ala Gln Leu Leu Met Asn Asp Phe Glu
 355 360 365
 Ser Ala Lys Gly Asp Phe Glu Lys Val Leu Ala Val Asn Pro Gln Asn
 370 375 380
 Arg Ala Ala Arg Leu Gln Ile Ser Met Cys Gln Arg Lys Ala Lys Glu
 385 390 395 400
 His Asn Glu Arg Asp Arg Arg Val Tyr Ala Asn Met Phe Lys Lys Phe
 405 410 415
 Ala Glu Arg Asp Ala Lys Glu Glu Ala Ser Lys Ala Gly Ser Lys Lys
 420 425 430
 Ala Val Glu Gly Ala Ala Gly Lys Gln His Glu Ser Gln Ala Met Glu
 435 440 445
 Glu Gly Lys Ala Lys Gly His Val
 450 455

<210> 34

<211> 747

<212> DNA

<213> Mus musculus

<400> 34

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gcggactgcc tgtccctgtg ctccctgtgt gcagtgagga ttcaggatgg gccccgtccc 120
atcaaccccc tgatttgctc cctggagtgc caggacctgg tgccgccctc agaggagtgg 180
gagacatgcc ggggcttctc atcttttctc accctgacgg tctctgggct ccgtggcaag 240
gatgacttgg aagatgaggt tgctttggaa gaaggcatca gtgcacatgc caagctcttg 300
gaacccgtcc tgaaggagct ggagaaaagc cgactcctta ccagcgtccc agaggaaaag 360
ttcaggggtc tctccagcag ctttggcaac ggaaaagaat ctgagctggc ggggtgctgac 420
cggatgaatg atgaagccgc acaggggcgc accgtccatt ttaatgagga ggacttgaga 480
aaacaggcca aacgctatgg cggctttttg cgcaaatacc ccaagaggag ttccgagatg 540
gcccggatg aggcgggggg ccaggatggg gatcaggtag ggcatagga cctgtacaaa 600
cgctatgggg gcttcctgcg ggcattcgc cccaagctga agtgggacaa ccagaagcgc 660
tatggtggtt tcctgcggcg tcagttcaag gtggtgacgc ggtcccagga gaacccaat 720
acctattctg aagatttaga tgtttga 747

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<210> 35

<211> 248

<212> PRT

<213> Mus musculus

<400> 35

Met Ala Trp Ser Arg Leu Met Leu Ala Ala Cys Leu Leu Val Met Pro
 1 5 10 15

Ser Asn Val Met Ala Asp Cys Leu Ser Leu Cys Ser Leu Cys Ala Val
 20 25 30

Arg Ile Gln Asp Gly Pro Arg Pro Ile Asn Pro Leu Ile Cys Ser Leu
 35 40 45

Glu Cys Gln Asp Leu Val Pro Pro Ser Glu Glu Trp Glu Thr Cys Arg
 50 55 60

Gly Phe Ser Ser Phe Leu Thr Leu Thr Val Ser Gly Leu Arg Gly Lys
 65 70 75 80

Asp Asp Leu Glu Asp Glu Val Ala Leu Glu Glu Gly Ile Ser Ala His
 85 90 95

Ala Lys Leu Leu Glu Pro Val Leu Lys Glu Leu Glu Lys Ser Arg Leu
 100 105 110

Leu Thr Ser Val Pro Glu Glu Lys Phe Arg Gly Leu Ser Ser Ser Phe
 115 120 125

Gly Asn Gly Lys Glu Ser Glu Leu Ala Gly Ala Asp Arg Met Asn Asp
 130 135 140

Glu Ala Ala Gln Gly Arg Thr Val His Phe Asn Glu Glu Asp Leu Arg
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Lys Gln Ala Lys Arg Tyr Gly Gly Phe Leu Arg Lys Tyr Pro Lys Arg
 165 170 175

Ser Ser Glu Met Ala Arg Asp Glu Asp Gly Gly Gln Asp Gly Asp Gln
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Val Gly His Glu Asp Leu Tyr Lys Arg Tyr Gly Gly Phe Leu Arg Arg
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 <212> PRT
 <213> Mus musculus

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 35 40 45
 Thr Leu Glu Cys Glu Gly Gln Leu Pro Ser Phe Lys Ile Trp Glu Thr
 50 55 60
 Cys Lys Asp Leu Leu Gln Val Ser Arg Pro Glu Phe Pro Trp Asp Asn
 65 70 75 80
 Ile Asp Met Tyr Lys Asp Ser Ser Lys Gln Asp Glu Ser His Leu Leu
 85 90 95
 Ala Lys Lys Tyr Gly Gly Phe Met Lys Arg Tyr Gly Gly Phe Met Lys
 100 105 110

Lys Met Asp Glu Leu Tyr Pro Met Glu Pro Glu Glu Glu Ala Asn Gly
 115 120 125
 Gly Glu Ile Leu Ala Lys Arg Tyr Gly Gly Phe Met Lys Lys Asp Ala
 130 135 140
 Asp Glu Gly Asp Thr Leu Ala Asn Ser Ser Asp Leu Leu Lys Glu Leu
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 Thr Asn Asn Asp Glu Asp Met Ser Ser Lys Arg Tyr Gly Gly Phe Met
 180 185 190
 Arg Ser Leu Lys Arg Ser Pro Gln Leu Glu Asp Glu Ala Lys Glu Leu
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 Gln Lys Arg Tyr Gly Gly Phe Met Arg Arg Val Gly Arg Pro Glu Trp
 210 215 220
 Trp Met Asp Tyr Gln Lys Arg Tyr Gly Gly Phe Leu Lys Arg Phe Ala
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<210> 38

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<212> DNA

<213> Mus musculus

<400> 38

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<210> 39

<211> 431

<212> PRT

<213> Mus musculus

<400> 39

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Met Gly Leu Asn Asp Phe Ile Gln Lys Ile Ala Ser Asn Thr Tyr Ala
          35                      40                      45

Cys Lys His Ala Glu Val Gln Ser Ile Leu Lys Met Ser His Pro Gln
          50                      55                      60

Glu Pro Glu Leu Met Asn Ala Asn Pro Ser Pro Pro Ser Pro Ser
          65                      70                      75                      80

Gln Gln Ile Asn Leu Gly Pro Ser Ser Asn Pro His Ala Lys Pro Ser
          85                      90                      95

Asp Phe His Phe Leu Lys Val Ile Gly Lys Gly Ser Phe Gly Lys Val
          100                      105                      110

Leu Leu Ala Arg His Lys Ala Glu Glu Val Phe Tyr Ala Val Lys Val
          115                      120                      125

Leu Gln Lys Lys Ala Ile Leu Lys Lys Lys Glu Glu Lys His Ile Met
          130                      135                      140

Ser Glu Arg Asn Val Leu Leu Lys Asn Val Lys His Pro Phe Leu Val
          145                      150                      155                      160

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Gly Leu His Phe Ser Phe Gln Thr Ala Asp Lys Leu Tyr Phe Val Leu
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 180 185 190
 Cys Phe Leu Glu Pro Arg Ala Arg Phe Tyr Ala Ala Glu Ile Ala Ser
 195 200 205
 Ala Leu Gly Tyr Leu His Ser Leu Asn Ile Val Tyr Arg Asp Leu Lys
 210 215 220
 Pro Glu Asn Ile Leu Leu Asp Ser Gln Gly His Ile Val Leu Thr Asp
 225 230 235 240
 Phe Gly Leu Cys Lys Glu Asn Ile Glu His Asn Gly Thr Thr Ser Thr
 245 250 255
 Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu His Lys Gln
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 Pro Tyr Asp Arg Thr Val Asp Trp Trp Cys Leu Gly Ala Val Leu Tyr
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<211> 3917

<212> DNA

<213> Mus musculus

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<210> 41

<211> 424

<212> PRT

<213> Mus musculus

<400> 41

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          20                      25          30

Ala Leu Ser Leu Ser Asn Gly Ser Gly Asn Ser Ser Glu Ser Ile Leu
          35                      40          45

Glu Pro Asn Ser Asn Leu Asp Val Asn Thr Asp Ile Tyr Ser Lys Val
  50                      55          60

Leu Val Thr Ala Val Tyr Leu Ala Leu Phe Val Val Gly Thr Val Gly
  65                      70          75          80

Asn Ser Val Thr Ala Phe Thr Leu Ala Arg Lys Lys Ser Leu Gln Ser
          85                      90          95

Leu Gln Ser Thr Val His Tyr His Leu Gly Ser Leu Ala Leu Ser Asp
          100                     105          110

Leu Leu Ile Leu Leu Leu Ala Met Pro Val Glu Leu Tyr Asn Phe Ile
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Trp Val His His Pro Trp Ala Phe Gly Asp Ala Gly Cys Arg Gly Tyr
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Tyr Phe Leu Arg Asp Ala Cys Thr Tyr Ala Thr Ala Leu Asn Val Ala
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Ser Leu Ser Val Glu Arg Tyr Leu Ala Ile Cys His Pro Phe Lys Ala
          165                     170          175

Lys Thr Leu Met Ser Arg Ser Arg Thr Lys Lys Phe Ile Ser Ala Ile
          180                     185          190

Trp Leu Ala Ser Ala Leu Leu Ala Val Pro Met Leu Phe Thr Met Gly
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Leu Gln Asn Arg Ser Ala Asp Gly Gln His Pro Gly Gly Leu Val Cys
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Phe	Ser	Arg	Lys	Pro	Asn	Ser	Met	Ser	Ser	Asn	His	Ala	Phe	Ser	Thr
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<210> 42

<211> 21

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 42

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21

<210> 43

<211> 25

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 43
 tgcttgctga tccacatctg ctgga 25

 <210> 44
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 44
 gggccggact catcgtact 19

 <210> 45
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
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 oligonucleotide

 <400> 45
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 <210> 46
 <211> 29
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 46
 agaaggggtga ggatccccca aatcagagt 29

 <210> 47
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 47
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<210> 48
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<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 48
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<210> 49
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 oligonucleotide

<400> 49
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<210> 50
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 oligonucleotide

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 oligonucleotide

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26

<210> 53
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<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 53
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19

<210> 54
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
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 oligonucleotide

<400> 54
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21

<210> 55
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<220>
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 oligonucleotide

<400> 55
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20

<210> 56
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<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 56
aggaagacac ggcgtttag a 21

<210> 57
<211> 19
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<213> Artificial Sequence

<220>
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oligonucleotide

<400> 57
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<210> 58
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<220>
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<400> 58
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<210> 59
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oligonucleotide

<400> 59
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<210> 60
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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 60
tggaccaatg ccccgatt 18

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<220>
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oligonucleotide

<400> 61
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<210> 62
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 62
gcccgtttta taggtgacat tttaa

25

<210> 63
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 63
gggataatta acgccaagc tt

22

<210> 64
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<213> Artificial Sequence

<220>
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oligonucleotide

<400> 64
ccaaggagg agtgcgccct

20

<210> 65
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<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 65

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23